PATENT SPECIFICATION

434,145

Convention Dates (United States)

May 6, 1933:
May 27, 1933:

Corresponding Applications in United Kingdom

No. 12797/34
No. 12798/34
Dated April 27, 1934.

(One Complete Specification Left under Section 91 (2) of the Patents and Designs Acts, 1907 to 1932).

Specification Accepted: Aug. 27, 1935.

COMPLETE SPECIFICATION

Improvements in or relating to Cartons

I, CHARLES AUGUSTUS FOX, of 507, West 33rd Street, New York, United States of America, a Citizen of the United States of America, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to cartons and in particular to cartons of the foldable type, and has for its object to provide a simple, convenient and economical construction whereby cartons adapted to contain one or more articles in separate compartments may be constructed from a single blank.

A carton made from a single blank of sheet material and having interlocking flaps, constituting walls of a compartment, is known, and it is also known to form a carton from a single blank of sheet material and to provide an apertured retaining plates connected with a wall of the carton by a retroverted portion extending substantially parallel with said wall. According to the invention, however, there is provided a carton made from a single blank of sheet material and comprising a back formed with side flaps, having at the bottom thereof extensions which are adapted to interlock to form the bottom of the carton, said back having at the top thereof one or more apertured retaining plates connected therewith by a retroverted portion extending substantially parallel therewith, said back being formed at the bottom with an extension constituting a closure member adapted to underlie, in parallel relation, the interlocking flaps and to constitute also the front and top of the carton, whilst the free end of the closure member constitutes a tongue which, when in the closed position, is frictionally engaged by said retroverted portion.

The invention will be described by way of example with reference to the accompanying drawings of which Figure 1 is a plan view of a blank from which the carton is formed to provide three article-receiving compartments.

Figure 2 is a perspective view of the carton in partially set up position.

Figure 3 is a transverse section through the carton in a partially set up position and showing the manner of interlocking flaps in overlapping relation to form an end wall of the carton.

Figure 4 is a vertical sectional view through the carton taken substantially on the line 4—4 of Figure 5.

Figure 5 is a transverse section through the carton substantially on the line 5—5 of Figure 4.

Figure 6 is a plan view of a blank utilized to form a two-bottle carton.

Figure 7 is a perspective view of the carton of Figure 6 in a partially set up position.

Figure 8 is a view similar to Figure 7 showing the manner of interlocking the flaps forming one of the end walls of the carton.

Figure 9 is a vertical longitudinal section taken substantially on the line 9—9 of Figure 10.

Figure 10 is a section on the line 10—10 of Figure 9.

Figure 11 is a plan view, similar to Figures 1 and 6, of a blank for a one-bottle carton.

Figure 12 is a perspective view of the latter carton in its partially set up position.

Figure 13 is a similar view showing the manner of interlocking the flaps forming an end wall of the carton, and

Figure 14 is a vertical longitudinal section through the carton in its completely set up position.

The carton of the present invention, which is made from a single blank, preferably of corrugated board of suitable weight and strength, is especially designed for the convenient packing and transportation of bottled beer, wines, and

[Price 1/-]

Price 4s 6d

other beverages.

The blank from which the carton of Figures 1 to 5 is formed, is cut and scored to provide a rear wall 15, side walls 16, closure flaps 17 at adjacent ends of said side walls, and a closure member generally indicated by the numeral 18. When the blank is cut the member 18 forms a continuation of the wall 15 and said member is scored transversely to provide a bottom section 19, front wall 20, a top closure section 21, and a closure flap 22. The cut blank further comprises strips generally indicated by the numerals 23 and 24, each of which forms a continuation of one of the side walls 16. The strip 23 is scored transversely at 25 to form a flap 26 and a partition member 27, the former having in its outer edge a substantially V-shaped notch 28, while the member 27 has a transverse slot 29 in its inner edge and adjacent the free extremity of said member. The strip 24 is similarly scored at 30 to form the flap 31 and partition 32. Said flap 31 is provided upon its inner edge with the V-shaped notch 33 and the member 32 has a slot 34 similar to the slot 29. From the slots 29, 34 to the free extremities of the strips 23 and 24 the width of the partition members is reduced as indicated at 35 for a purpose which will appear in the course of the description.

At the opposite end of the blank and between the flaps 17 the wall 15 is extended to form a section generally indicated by the numeral 36 and this section is scored transversely along the line 37 to define a portion 38 of the wall 15, and a retaining plate 39. In the embodiment being described, said plate is provided with three apertures 40 each adapted to receive a neck of a bottle as indicated in Figure 4 and the material adjacent each of these apertures is slit at 41 so as to impart flexibility to the plate adjacent the aperture and thereby permit of the easier insertion of the bottle neck through the aperture and its withdrawal therefrom. Between the apertures 40 the plate is provided with the spaced slots 42 extending inwardly from the outer edge of the section 36 and adapted to co-operate with the slots 29 and 34 in the partition members 27 and 32, when the carton is set up, as will presently appear.

In folding the blank to form the carton, the side walls 16 and their strips 23 and 24 are first bent on the longitudinal scored lines defining the wall 15 after which said strips are folded on the score lines separating said side walls from the flaps 26 and 31 and a similar folding action is accomplished on the lines 25 and 30. The flap 26 is now bent inwardly to the position shown in Figures 2 and 3 with its partition 27 extending toward the end of the blank on which the retaining plate 39 is formed. The flap 31 is then interlocked with the flap 26 in the manner indicated in Figure 3, by interengaging the notches 28 and 33 and overlapping said flaps so that a portion of the flap 31 extends on the exterior side of the flap 26 with the remainder of said flap adjacent its partition 32 extending through the slot 28 and on the interior side of the flap 26. With the flaps thus interlocked, the partition 32 extending from the flap 31 is also disposed similarly to the partition 27 and in substantially parallel relation within the carton body and to the side walls 16 thereof.

The section 36 is now folded upon its scored lines so as to extend the portion 38 along the interior of the wall 15 and laterally project the retaining plate 39 with respect to said wall so that the plate will extend transversely of the partitions 27 and 32. The latter are now lifted sufficiently to interengage the slots 29 and 34 thereof with the slots 42 in the retaining plate and thereby interlock said partitions with said plate so that the same will maintain their positions within the body of the carton and combine to form three article-receiving compartments therein into each of which a bottle may be inserted by first projecting the neck thereof through one of the openings 40. The bottoms of the bottles in the two outer compartments then rest upon the flaps 26 and 31 and the bottle in the central compartment likewise rests upon the overlapping portions of said flaps. Thus the retaining plate 39 not only acts to maintain the partitions 27 and 32 in proper position, but also assists in maintaining the bottles within their respective compartments where they are separated from each other by said partitions. The flaps 17 are now folded inwardly so as to rest upon the adjacent ends of the partitions 27 and 32 and the closure member 18 is then folded on its transverse score lines to bring the bottom sections 19 into intimate contact with the flaps 26 and 31 and to also adjust the front wall 20 into closing position with respect to the various compartments. Finally, to completely close the carton, the end closure 21 is folded down upon the flaps 17 and at the same time the flap 22 is inserted into the space between the wall portion 38 and the adjacent longitudinal edges of the partitions 27 and 32 and edges of the flaps 17, said edges of the partitions having been cut away at 35, as previously described, to provide a convenient space for the insertion of said flap

22. Before the latter flap is inserted, the portion 38 extends downwardly in a slightly diagonal direction, as best indicated in Figure 4, so that it will, in effect, form a wedge-shaped space with the adjacent edges of the partitions, this diagonal positioning of the portion 38 being primarily due to the inherent flexibility of the material and the consequent natural tendency of said portion 38 to move away from the wall 15 after the portion 38 has been folded to the position shown in Figures 2 and 4. As a consequence, there will be a frictional engagement of the flap 22 with the portion 38, the adjacent edges of the partitions 27 and 32, and the contiguous edges of the flaps 17, which engagement will be sufficient to maintain the end closure 21 in its closing position. Further, due to the natural tendency of the portion 38 to spring away from the wall 15, said portion will exert a yielding pressure upon the flap 22 and thus further assist in maintaining the same in its inserted position.

Referring to the form of the invention shown in Figures 6 to 10 inclusive, in which the carton is adapted to contain two compartments, the blank from which the carton is made is cut and scored to provide the rear wall 43, side walls 44 and 45, the closure member generally indicated by the numeral 46, the closure flaps 47 at adjacent ends of said side walls, and the strips 48 and 49 extending from the side walls 44 and 45, respectively, at the other ends thereof remote from the flaps 47. The strip 48 constitutes in its entirety an end flap 50 having a notch 51 in its outer edge and adjacent its free extremity, while the strip 49 is divided by a score line into an end flap 52 and a partition member 53. The end flap 52 is shorter than the flap 50 and is provided with a notch 54 in its inner edge similar in shape to the notch 51. Adjacent the free extremity of the partition 53 and upon its inner edge the same is formed with a transverse slot 55. Between the closure flaps 47 the wall 43 is extended to form a section generally indicated by the numeral 56, this section being of exactly the same construction as the section 36 except that it is provided with only two apertures 57 and a single transverse slot 58 which is adapted to co-operate with the slot 55 in the partition 53 to interlock the retaining plate of the section 56 with said partition when the carton is set up as shown in Figure 7.

The folding of the carton is effected in the same manner as described in connection with Figures 1 to 5 and by making the flaps 50 and 52 of different lengths it will be apparent that the same are overlapped and interlocked with each other at a point adjacent the side wall 45, instead of an intermediate point as in Figure 2. This will permit of the partition 53 being positioned equi-distant between the side walls 44 and 45 and thus form two compartments within the carton of equal dimensions. The remainder of the folding operation will be apparent from the preceding description.

In Figures 11 to 14, there is described a carton for sealing a single bottle, and in this instance said carton is again formed from a single blank comprising the rear wall 59, side walls 60, and closure flap 61 at one end of said side walls, interlocking flaps 62 and 63 at the other end of said side walls, and a closure member generally indicated at 64 extending from the wall 59 and between said flaps 62 and 63. The flap 62 is provided in its outer edge with a notch 65 while in the inner edge of the flap 63 there is formed a similar notch 66, said notches being adapted to be interengaged in the same manner as described in connection with the notches 28, 33 and 51, 54, so as to form an end closure for the single compartment of the carton. From between the closure flap 61 there is extended the section 67 scored transversely to define a wall portion 68 similar to the portion 38, and to also form the apertured retaining plate 69 the opening of which is adapted to receive the neck of the bottle inserted into the carton after the blank has been folded to the position shown in Figure 12. Following this, the flaps 61 are folded inwardly and the closure member 64 which is similar in all respects to the members 18 and 46, except for the width thereof, is then folded into position in the same manner as described in connection with the member 18.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

A carton made from a single blank of sheet material and comprising a back formed with side flaps, having at the bottom thereof extensions which are adapted to interlock to form the bottom of the carton, said back having at the top thereof one or more apertured retaining plates connected therewith by a retroverted portion extending substantially parallel therewith, said back being formed at the bottom with an extension constituting a closure member adapted to underlie, in parallel relation, the interlocking flaps and to constitute also the front and top of the carton, whilst the free end of the closure member constitutes a tongue

which, when in the closed position, is frictionally engaged by said retroverted portion.

Dated this 27th day of April, 1934.
A. M. & WM. CLARK,
Chartered Patent Agents,
53 & 54, Chancery Lane, London, W.C.2.

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[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 1.

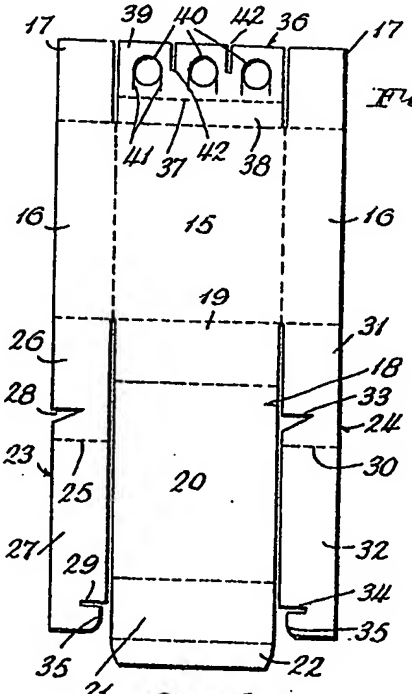


Fig. 2.

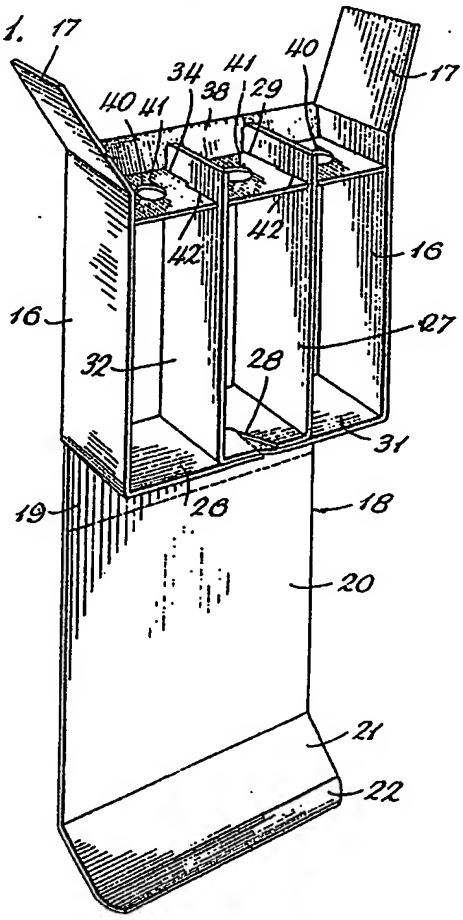


Fig. 4.

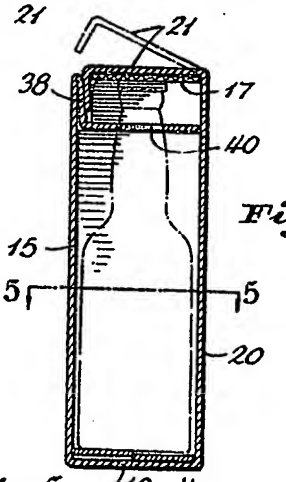


Fig. 3.

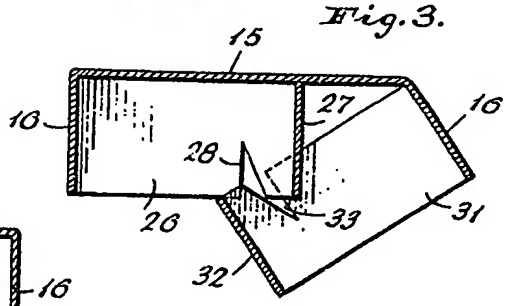
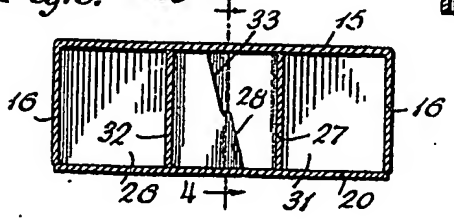


Fig. 5.



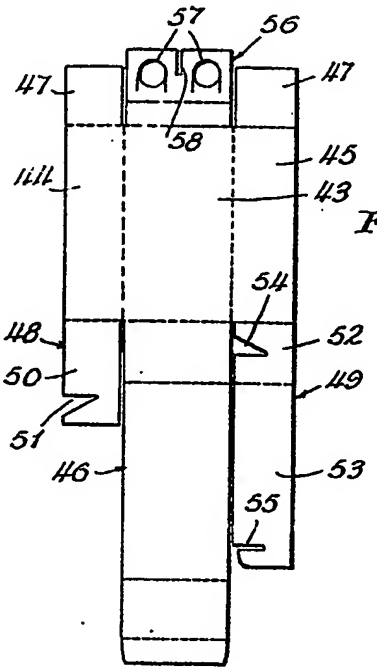


Fig. 6.

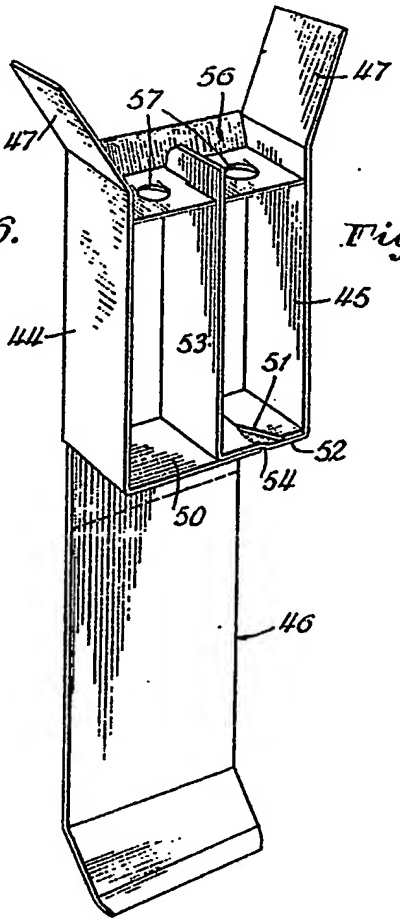


Fig. 7.

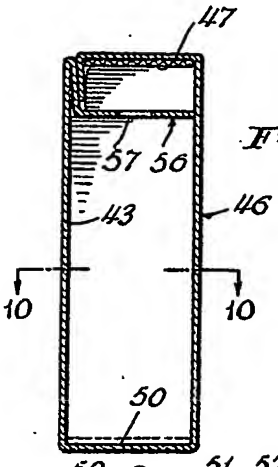


Fig. 9.

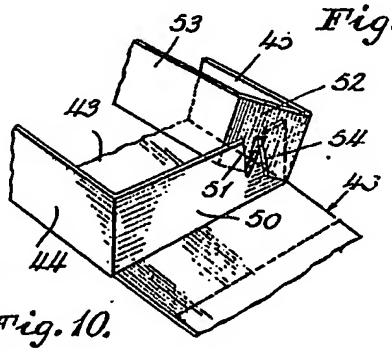


Fig. 8.

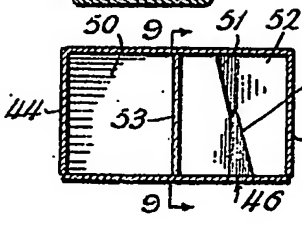


Fig. 10.

Malby & Sons, Photo-Lith.

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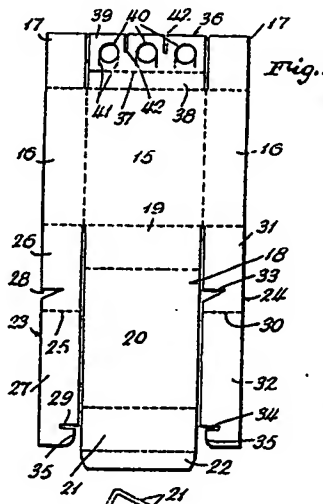


Fig.1.

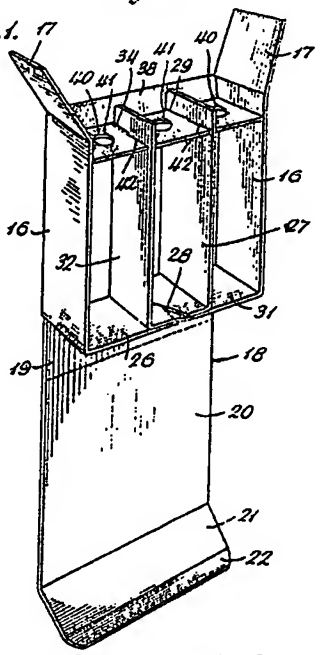


Fig.2.

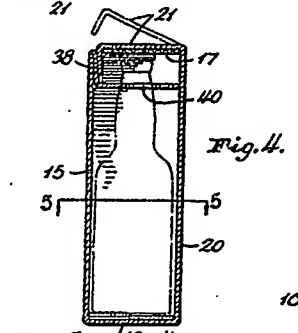


Fig.4.

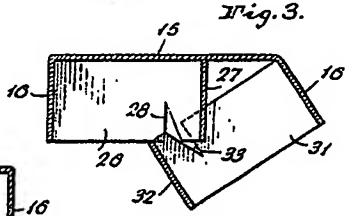


Fig.3.

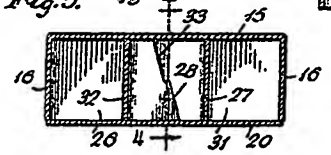


Fig.5.

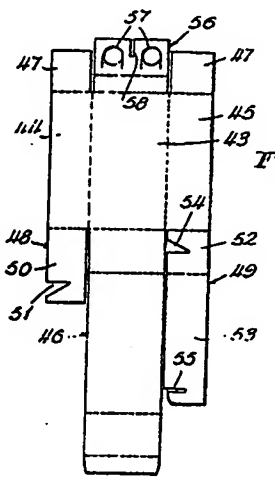


Fig.6.

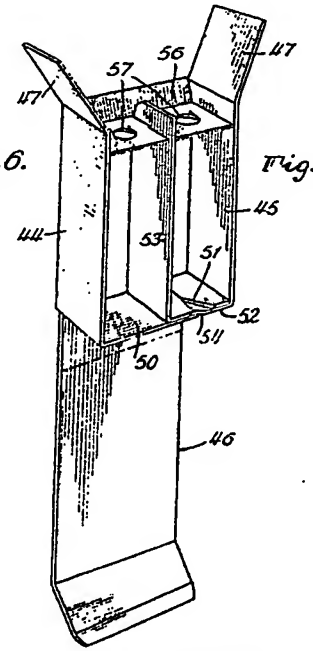


Fig.7.

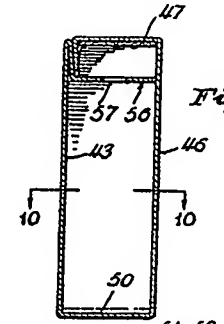


Fig.9.

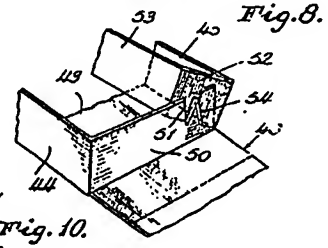


Fig.8.

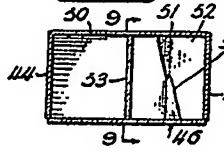


Fig.10.

Melby & Sons, Photo-Lith.

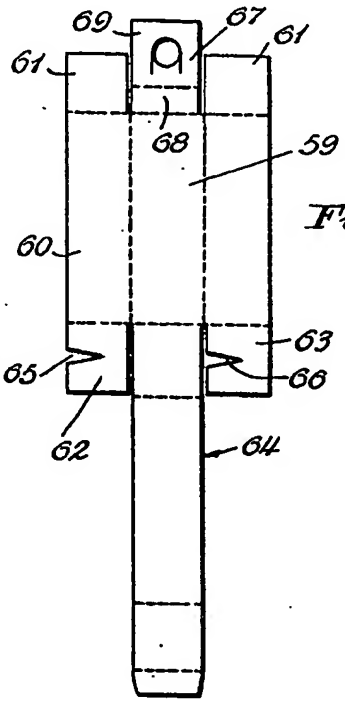


Fig. 11.

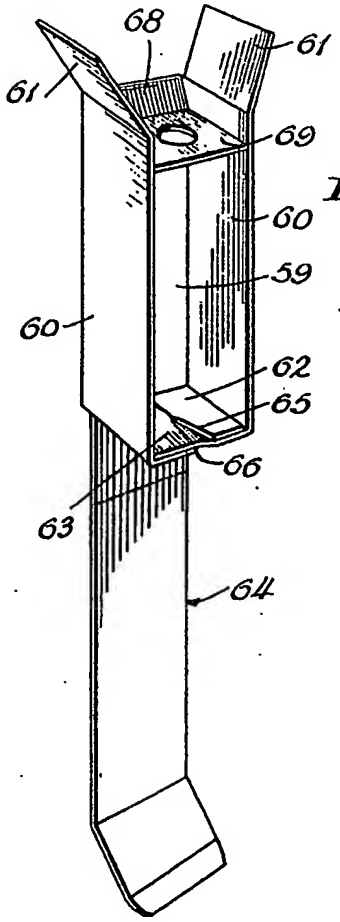
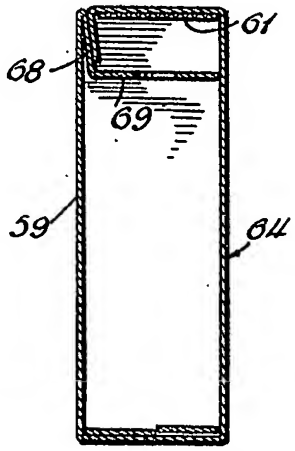


Fig. 12.

Fig. 14.



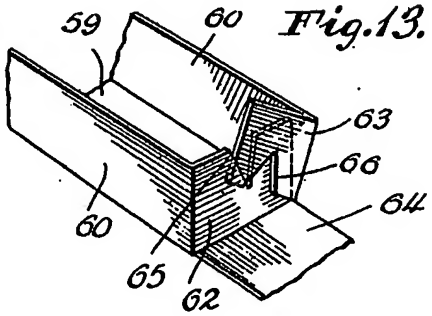


Fig. 13.

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